

**INDEPENDENT OVERSIGHT REVIEW
OF AVIATION SAFETY
IN THE
DEPARTMENT OF ENERGY**



October 1996

**Office of Oversight
Environment, Safety and Health
U.S. Department of Energy**

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	iii
1.0 INTRODUCTION	1
1.1 Background	1
1.2 Recent Programmatic Changes	1
1.3 Methodology	7
2.0 AVIATION SAFETY REVIEW	7
2.1 Line Manager Responsibility and Accountability	8
2.2 Comprehensive Requirements	9
2.3 Competence Commensurate with Responsibilities	10
3.0 OPPORTUNITIES FOR IMPROVEMENT	11
APPENDIX A. TEAM COMPOSITION	A-1

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EXECUTIVE SUMMARY

The U.S. Department of Energy (DOE) Office of Oversight conducted a review of Department-wide aviation safety programs during the period of June through October 1996. The purpose of the review was to develop an understanding of the impacts of recent changes in the Department's aviation safety program and to review the aviation program management systems in place to ensure the safety of the DOE workforce and the public.

DOE's aviation program has made significant progress since the 1991-1992 time period, when a series of aviation accidents resulted in 17 fatalities and two serious injuries, along with the destruction of seven aircraft. As a result of these accidents, the Department implemented significant changes to the program. Since then, there have been no aviation accident-related deaths or injuries and no significant damage to manned aircraft. The Department's aviation program has undergone several major changes since 1992: the enactment of Public Law 103-411, the replacement of DOE Order 5480.13A by DOE Order 440.2, the formation of a new Headquarters aviation management structure, and significant downsizing of aviation programs across the Department.

DOE has the responsibility for regulating and ensuring regulatory and safety compliance for its aviation operations, including chartered and leased aircraft when they are in the service of the Department. The Federal Aviation Administration (FAA) has the responsibility for regulating only a small portion of DOE's aviation missions.

The review found that the effectiveness of the aviation safety programs that began in 1993 continues today. DOE's aviation operations observed during this review are being conducted safely, largely as the result of the professionalism and commitment to excellence of the contractors' flying operations. DOE and contractor aviation managers in the field are aware of their responsibilities and the issues facing their aviation programs, and are actively involved in day-to-day flying operations. The Headquarters aviation organization provides an effective and needed focal point for the program, and is a valuable technical resource for aviation information and assistance to the field. The Department's performance-based approach to aviation policy gives the field a great deal of flexibility in developing and implementing aviation programs that meet their unique, site-specific needs.

While the current state of the aviation safety program is good, the review found some indications that the program's priority is beginning to receive less emphasis. The most significant indication is the fact that program offices are relatively uninvolved with the aviation operations supporting their programs. This lack of involvement has contributed to other problems noted in this review. One of these is the failure of local DOE and contractor line managers to exercise management controls, such as formal operations office surveys and formal self-assessments of their aviation programs. Many aviation operations have not been formally reviewed, either internally or by DOE, for over three years. Another problem noted is that while most DOE personnel in the field are qualified to do their jobs, some do not have the necessary training and experience. It will be difficult to correct this situation because only one of the operations offices visited has formal processes in place to identify training needs for their aviation personnel, and the Department does not have technical qualification standards to establish a baseline level of technical competence. One of the primary causes of this situation is the fact that DOE aviation policy prevents the program offices from exercising one of their most important line management functions: approving the site-specific aviation implementation plans, which are the cornerstone of the Department's performance-based approach to managing its aviation programs.

While the aviation safety program is currently operating effectively in the field, the program's priority needs to be maintained at an appropriate level to ensure that its effectiveness continues over the long term. Left uncorrected, the concerns noted in this review could adversely impact the program's current level of

effectiveness. The review identified the following enhancements that should be considered as a means of addressing these concerns:

- Program offices should exercise their line management responsibilities for the aviation operations supporting their programs.
- Ensure that formal self-assessments and formal surveys are conducted regularly for all DOE aviation programs.
- Establish technical qualifications for DOE field personnel with aviation program responsibilities.

Overall, the challenge facing the Department regarding its aviation program is to maintain, in the face of changing missions and downsized aviation operations, the strong commitment to professionalism and excellence demonstrated by the aviation managers and staff interviewed. DOE must also resist the onset of complacency resulting from its excellent safety record during the past three years.

INDEPENDENT OVERSIGHT REVIEW OF AVIATION SAFETY IN THE DEPARTMENT OF ENERGY

1.0 INTRODUCTION

1.1 Background

The Department of Energy (DOE) and its predecessor organizations have utilized aircraft for a wide range of missions since the early days of the Manhattan Project. The scope of the Department's aviation program grew steadily through the Cold War period, reaching a peak of 52 aircraft in 1990. Today, DOE owns a fleet of 33 aircraft, roughly equivalent to a typical U.S. regional airline (see Figure 1). DOE's fleet is composed of a wide variety of types and sizes of aircraft, including three DC-9 aircraft capable of carrying 80 passengers each. In addition to these 33 aircraft, the Department charters and leases many aircraft from private companies. All of these aircraft perform a variety of missions that include transporting passengers, cargo, nuclear weapons components, and hazardous materials; conducting site security operations; responding to radiological emergencies in support of such organizations as the Nuclear Emergency Search Team (NEST) and the Aerial Measurement Group (AMG); patrolling powerlines and pipelines; and conducting a multitude of research and development tasks, including remotely piloted aircraft operations.

Since, 1993, the Department's aviation safety record has been good. However, during an 18-month period from mid-1991 through the end of 1992, DOE experienced 12 major aviation accidents that resulted in 17 fatalities and two serious injuries, along with the destruction of seven aircraft. As a result of these accidents, significant changes were made to the Department's aviation programs. The success of these changes is evidenced by the fact that DOE has had no aviation accident-related deaths or injuries, and no significant damage to manned aircraft, since the changes to the aviation program were implemented in January 1993.

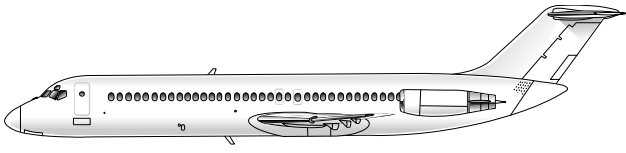
1.2 Recent Programmatic Changes

Within the past 24 months there have been several major changes in the environment in which the Department's aviation program operates: the enactment of Public Law 103-411, the implementation of a

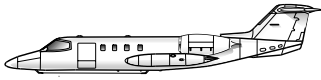
The Department of Energy (DOE) owns a fleet of aircraft roughly equivalent in size to a typical U.S. regional airline.

The Department has had no aviation-related deaths or injuries since January 1993.

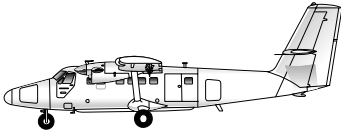
Several major changes have occurred in the Department's aviation program over the last two years.



DC-9
3 Aircraft in Albuquerque



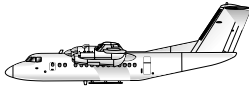
Lear-35
1 Aircraft in Albuquerque



deHavilland DHC-6
2 Aircraft in Albuquerque



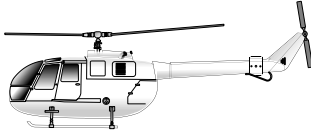
Beech King Air BE-200
1 Albuquerque, 2 Nevada, 2 Bonneville Power



deHavilland DHC-7
1 Albuquerque



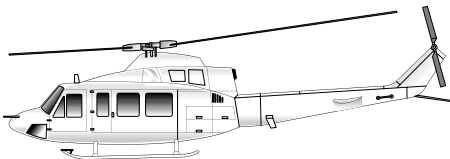
Cessna Citation II
1 Nevada



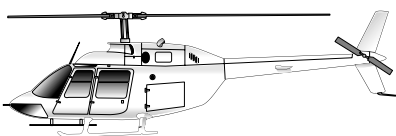
BO-105
3 Nevada, 2 Andrews Air Force Base



BK-117
2 Savannah River



Bell-412 (2 Owned By EH)
Assigned to Nevada and Western Area Power



Bell-206
6 Bonneville Power, 5 Western Area Power

Total: 33 Aircraft

Figure 1. Department of Energy Owned Aircraft
(not to scale)

significant change in DOE's approach to aviation policy with the promulgation of DOE Order 440.2, replacing DOE Order 5480.13A; the formation of a new Headquarters aviation management structure; and downsizing of aviation programs across the Department. While these changes have the potential to improve the overall operation of the DOE's aviation programs, experience shows that the potential for accidents is greater during the period of transformation, as familiar ways of doing business are changed.

The first change was the enactment of Public Law 103-411, which requires that government flying operations carrying passengers or carrying cargo for reimbursement operate under the appropriate section(s) of Title 14, Code of Federal Regulations. As a result, DOE field organizations that carry passengers or cargo have applied for the appropriate Federal Aviation Administration (FAA) certificates. Once a certificate is granted, the FAA is responsible for inspecting and enforcing compliance with FAA regulations for those missions covered by the certificate(s). However, the FAA has minimal involvement with DOE's aviation operations because the certificates apply to only a small portion of the Department's missions (see Figure 2). DOE has the responsibility for regulating and ensuring regulatory and safety compliance for its aviation operations, regardless of mission, including chartered and leased aircraft when they are in the service of the Department. Additionally, DOE is fully accountable for all aviation accidents and any damage, injuries, deaths, or environmental impacts that result from its aviation operations.

Another programmatic change occurred when DOE Order 5480.13A was replaced by DOE Order 440.2 in late 1995. In keeping with the Department-wide move towards broad, performance-oriented requirements in lieu of specific, compliance-oriented requirements, DOE's aviation safety policy is now stated as five broad requirements:

1. Aircraft in service to DOE (including both Department-owned, and chartered and leased aircraft) must be operated in accordance with the applicable parts of Title 14, Code of Federal Regulations, and/or equivalent international or military standards.
2. All DOE organizations with aviation programs must submit implementation plans for complying with the new order to the Department's Senior Aviation Management Official.
3. DOE organizations conducting unmanned aircraft operations outside the scope of Title 14 must establish their own policies and procedures to ensure the safety of their operations.
4. DOE organizations must develop aviation safety documentation for each mission that has risks not normally accepted by the public (e.g., security response, research and development).

Public Law 103-411 requires that government-owned aircraft carrying passengers or cargo for commercial purposes meet Federal Aviation Administration requirements.

DOE orders are moving toward broad, performance-oriented requirements.

Site Operations

Location	No. / Aircraft Type	Mission	FAA Regulation	DOE Regulation
Albuquerque Operations Office	1 / DHC-7 2 / DHC-6 1 / BE-200 1 / Lear 35 3 / DC-9	Passenger transport Cargo transport Research and Development	✓ ✓	✓ ✓
Chicago Operations Office	Charter	Passenger transport Photo mission Aerial observation Wildlife surveys		✓ ✓ ✓ ✓
Headquarter Offices	Any DOE-owned Charter	Passenger transport Cargo transport Research and Development		✓ ✓ ✓
Idaho Operations Office	Charter	Firefighting Photo mission Site support		✓ ✓ ✓
Nevada Operations Office	5 / BO-105 2 / BE-200 1 / Citation II 1 / Bell-412	Aerial monitoring Nuclear Emergency Search Team (NEST) Security Research and Development		✓ ✓ ✓ ✓
Oakland Operations Office	Charter Project-owned	NEST passenger support Research and Development	✓	✓
Oak Ridge Operations Office	Charter	Passenger transport Photo mission Cargo transport		✓ ✓ ✓
Richland Operations Office	Charter	Research and Development		✓
Strategic Petroleum Reserve	Charter	Passenger transport Photo mission Cargo transport Agriculture Long line helicopter lift Pipeline/powerline patrol		✓ ✓ ✓ ✓ ✓ ✓
Savannah River Operations Office	2 / BK-117	Environmental surveys Fire surveillance Photo mission Security/Night vision goggles		✓ ✓ ✓ ✓

Power Administrations

Location	No. / Aircraft Type	Mission	FAA Regulation	DOE Regulation
Alaska	Charter	Passenger transport Cargo transport Agriculture Long line/sling helicopter load Pipeline/powerline patrol		✓ ✓ ✓ ✓ ✓
Bonneville	2 / BE-200 6 / Bell-206	Passenger transport Cargo transport Agriculture Long line/sling helicopter load Pipeline/powerline patrol	✓ ✓ ✓ ✓ ✓	
Southeastern	Charter	Passenger transport Cargo transport Agriculture Long line/sling helicopter load Pipeline/powerline patrol		✓ ✓ ✓ ✓ ✓
Southwestern	Charter	Passenger transport Cargo transport Agriculture Long line/sling helicopter load Pipeline/powerline patrol		✓ ✓ ✓ ✓ ✓
Western Area	5 / Bell-206 1 / Bell-412	Passenger transport Cargo transport Agriculture Long line/sling helicopter load Pipeline/powerline patrol		✓ ✓ ✓ ✓ ✓

Figure 2. Detailed Summary of DOE Aviation Program

5. Aircraft charter and lease operations must be evaluated by the appropriate DOE organization before they begin flight operations for the Department.

Additionally, Bonneville Power Administration (BPA) is exempt from the requirements of this order based upon the terms of the memoranda of agreement between the Secretary of Energy and the BPA, and the FAA and BPA.

The Assistant Secretary for Environment, Safety and Health has developed an implementation guide to accompany DOE Order 440.2. It sets forth a suggested aviation program for the field's consideration in developing and implementing their own site-specific programs.

The new order led to a new Headquarters aviation management structure. Although DOE Order 440.2 does not explicitly define a Headquarters management structure for the Department's aviation program, the "Implementation Guide for Use with DOE Order 440.2" does. It states that the management structure of the aviation program consists of three elements: the Senior Aviation Management Official, the Aviation Board of Directors, and Headquarters staff.

The Department's Senior Aviation Management Official is appointed by the Secretary to:

- Approve aviation implementation plans
- Provide technical assistance
- Represent the Department to other government agencies regarding aviation.

The current Senior Aviation Management Official also serves as the Director of the Office of Field Support, EH-53. He is responsible for developing aviation policy, appointing and chairing the DOE Aviation Board of Directors, and managing the Department's aviation property.

The DOE Aviation Board of Directors is responsible for approving aviation policy and procedures for the procurement, operations, safety, and disposal of DOE aircraft and aviation services. As currently structured, the Board of Directors is composed of DOE aviation managers from the field.

The aviation program Headquarters staff is composed of the Aviation Operations Team, which reports directly to the person currently serving as both Senior Aviation Management Official and Director, Office of Field Support. The Aviation Operations Team is composed of four aviation professionals who provide aviation safety and program support to the Senior Aviation Management Official, field organizations, and cognizant secretarial offices. The Aviation Operations Team:

The management structure of the aviation program consists of three elements: the Senior Aviation Management Official, the Aviation Board of Directors, and Headquarters staff.

- Reviews the field's draft implementation plans to ensure the technical adequacy of the aviation programs they describe
- Supports the development of DOE aviation policy
- Provides technical assistance to the DOE aviation community as requested
- Maintains the Department's aviation information system, including gathering aviation information from a number of external and internal sources and disseminating it to the field
- Supports Secretarial travel requests and needs
- Maintains the Department's aviation accident and incident reporting system
- Interfaces with the non-DOE aviation community.

The Department's program offices are responsible for developing and implementing effective aviation operations, airworthiness, and safety programs and for ensuring the effectiveness of DOE contractors' implementation of these programs. In the field, the local DOE operations offices are directly responsible for developing and implementing effective aviation programs and for ensuring that the contractors operating their aviation programs comply with DOE policy by meeting the provisions of the site-specific implementation plans.

The final major change in the DOE aviation environment is that aviation programs across the Department are being downsized in response to new mission requirements. One indicator of the magnitude of the reduction is the fact that total flight hours across the Department have declined from 30,000 in 1993 to 10,000 in 1995.

The DOE Office of Oversight has been delegated responsibility by the Assistant Secretary for Environment, Safety and Health for independent oversight of the Department's environment, health, and safety programs, including aviation safety. In recognition of the Office of Oversight's responsibility for independent oversight, the Deputy Assistant Secretary for Oversight initiated this review to develop an understanding of the impacts of recent changes in the Department's aviation program and to review the aviation program management systems in place to ensure the safety of the DOE workforce and the public both during the transition and after. This Office of Oversight review is the initial step in developing a comprehensive aviation safety oversight program. The next step will be to evaluate all DOE operations offices' aviation programs by the end of fiscal year 1998. Following completion of this initial round of evaluations, aviation safety oversight evaluations will be integrated into the Office of Oversight's schedule of safety management evaluations.

The Department's program and operations offices are directly responsible for developing and implementing effective aviation programs.

1.3 Methodology

This review was conducted by interviewing DOE and contractor managers and staff with responsibilities for the Department's aviation program, by reviewing DOE aviation program documents, and by observing field activities. Headquarters interviews focused primarily on the Senior Aviation Management Official, the Aviation Operations Team, and the various program offices that utilize aviation services: the Assistant Secretary for Defense Programs, the Assistant Secretary for Environmental Management, and the Office of Energy Research. Personnel interviewed in the field were primarily DOE aviation managers and safety officers, and aviation contractor managers and staff. Three DOE operations offices and aviation programs were visited in the field:

- Albuquerque Operations Office and Ross Aviation, Inc.
- Oakland Operations Office and the Lawrence Livermore National Laboratory
- Nevada Operations Office and Bechtel Nevada.

These three locations were selected because they are most representative of DOE aviation missions and different levels of regulation under Title 14, Code of Federal Regulations. The review team followed standard Office of Oversight protocols for data gathering, validation, and analysis.

2.0 AVIATION SAFETY REVIEW

DOE's guiding principles of safety management, as applied to the Department's aviation safety program (see Figure 3), form the framework for this study.

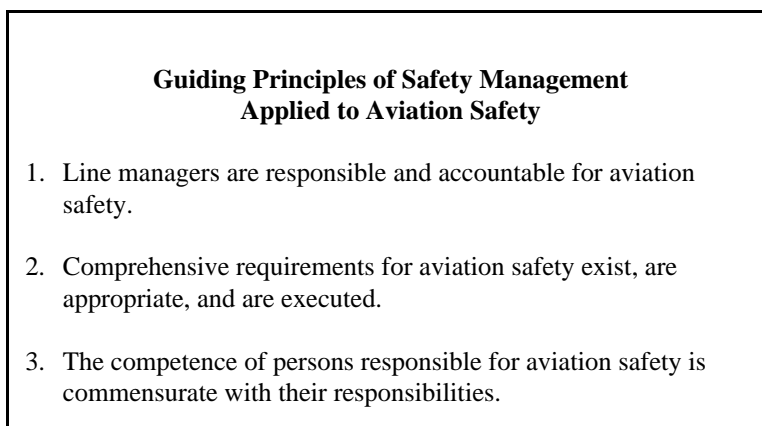


Figure 3. Guiding Principles of Safety Management

The review of aviation safety was conducted by interviews, document reviews, and observation of field activities.

Sections 2.1 through 2.3 discuss the observations and conclusions of this review in the context of these guiding principles. Within these sections, several potential program enhancements are identified; these are discussed in more detail in Section 3.0.

2.1 Line Manager Responsibility and Accountability

A fundamental principle governing safety management is that line managers must have full responsibility and authority for the safety of their operations. A number of DOE documents, including DOE Order 5482.1B, Environment, Safety and Health Appraisal Program; the U.S. DOE Report to Congress on the National Defense Authorization Act for Fiscal Year 1995; and the Department's October 21, 1994, response to the Defense Nuclear Facilities Safety Board, establish that line management authority in DOE flows from the Secretary to the cognizant secretarial officers (program offices) and then to the managers of the operations offices and to their contractors.

In practice, however, line management of the Department's aviation safety program does not follow this model. Program offices that utilize Departmental aviation services have little or no direct contact with the aviation programs at their facilities and exercise little line management of these programs. In almost all cases, attempts by the review team to identify program office points of contact with whom to discuss their aviation programs were referred to the DOE Senior Aviation Management Official, located in EH-53, or his staff, the Aviation Operations Team. One program office is directly involved in the aviation operations associated with its programs. Personnel in this office recognize their line management responsibility for all aspects of the aviation operations supporting their programs *except* aviation safety, which they said rested with EH-53.

One of the root causes of the program offices' lack of involvement with the aviation program lies in DOE policy. DOE Order 440.2 makes the program offices responsible for developing and implementing effective aviation programs and for ensuring the effectiveness of contractors' implementation of these programs. However, DOE policy does not give the program offices any formal role in reviewing, concurring with, or approving the implementation plans that establish the site-specific requirements for aviation programs at each location. This approval is reserved for the Senior Aviation Management Official. Program office involvement in this crucial aspect of the field's aviation programs is clearly appropriate because the program office is responsible for making funding determinations.

DOE managers in the field are aware of their line management responsibilities for the aviation program. Most DOE aviation managers in the field are knowledgeable about their aviation programs and issues and are actively involved in the day-to-day operations. Formal mechanisms have been established to make them clearly accountable for their performance regarding aviation safety.

Line management authority flows from the Secretary to the program offices, to operations office managers, to their contractors.

The Department's aviation policy may be the root cause of program offices' lack of involvement with the aviation program.

Field managers are aware of their line management responsibilities for the aviation program.

DOE Order 440.2 assigns the Senior Aviation Management Official the authority to develop policy while simultaneously chairing the Aviation Board of Directors, which approves policy. In appearance, the Senior Aviation Management Official both develops and approves aviation policy, thereby circumventing the checks and balances that DOE normally uses to avoid real or apparent conflicts of interest. This situation is exacerbated when the Board of Directors is not actively participating in the program, as has occurred for the past year. DOE needs to ensure that all aviation policy development and approval is accomplished in accordance with DOE Order 251.1, Directive System.

At some sites, DOE aviation managers and safety officers who formerly devoted 100 percent of their time to aviation responsibilities now devote only a portion of their time to these duties. This change results from Department-wide efforts to downsize and consolidate functions, and is not in itself inherently problematic. However, this approach places greater demands on personnel and makes adequate experience and training essential. As discussed in Section 2.3, some DOE personnel with aviation management responsibilities do not have adequate experience and training for their duties. While persons who are well trained and experienced can usually manage the competing demands for time that result from additional non-aviation-related responsibilities, persons who lack proper training and experience are more likely to make inappropriate decisions or fail to act in situations that could result in aviation safety problems.

2.2 Comprehensive Requirements

Other than the line management problem discussed in Section 2.1, the aviation program policies and procedures contained in Department-wide documents (such as DOE Order 440.2; its accompanying implementation guide; and local, site-specific documents such as the Aviation Operations Manual, the Aviation Maintenance Manual and aviation safety documentation) provide a framework for an effective aviation safety program. With the exception of a few problems discussed in this section, the program is being implemented effectively in the field.

With the promulgation of DOE Order 440.2 in September 1995, the Department implemented a significantly different approach to aviation program policy. The approach relies on five broad, performance-based requirements in lieu of numerous specific, compliance-based requirements contained in the previous order. As a result, the field has a great deal of flexibility in developing and implementing aviation programs to meet their unique, site-specific needs. Most managers in the field stated that this approach results in better, more cost-effective aviation programs.

The cornerstone of the Department's new approach to managing its aviation programs is the implementation plans developed by each operations office with aviation programs. These plans establish the specific requirements under which each site will manage and operate its aviation program.

DOE Order 440.2 gives each site a great deal of flexibility in developing and implementing an aviation program to meet its unique needs.

The contractor programs reviewed are committed to excellence in

The contractor programs reviewed are well run, professional aviation programs and are committed to excellence in aviation operations and aviation safety. Operating procedures, such as the Aviation Operations Manual and aviation safety documentation, are clear and comprehensive, and they provide the basis for effective aviation safety.

aviation operations and aviation safety.

Two of the three aviation contractors visited by the review team during this review did not have formal, documented self-assessment programs. Contractor managers stated that they conduct informal walk-throughs and other ad hoc reviews, but that they do not regularly conduct formal reviews, analyze and document the results, and follow up on actions to address deficiencies. Two of the three DOE operations offices also have not conducted formal surveys of their contractors' aviation programs. At one site, a DOE aviation manager stated that he had no plans to survey their contractor's aviation program because such a survey would be redundant to FAA regulation. In fact, most of the aviation missions conducted at this site are not subject to FAA scrutiny; the manager did not recognize this. The aviation manager at another site recognized that surveys were needed and planned to implement them in the near future. The third site had delayed their regularly scheduled survey of aviation operations for six months during their transition to a new aviation contractor. Although it may be prudent to delay formal surveys during periods of transition, oversight should be conducted to ensure that the transition is well managed and does not introduce additional safety vulnerabilities.

2.3 Competence Commensurate with Responsibilities

The contractors directly responsible for the day-to-day operation of the Department's aviation programs are qualified and competent to fulfill their responsibilities. Most of the contractor pilots have two to three times the level of flying experience required by the FAA for comparable positions. Most Departmental aviation operators are strongly committed to maintaining a high level of flight crew proficiency through frequent training. However, at one site, cost-cutting measures resulted in the cancellation of flight simulator training for pilots. While contractor managers at this site stated that the number of actual flight training hours will be increased to compensate, it will be difficult to duplicate the wide range of emergency conditions that can be safely presented through the use of flight simulators. Critical flight crew emergency skills could degrade, resulting in an increased potential for accidents.

Most DOE aviation personnel in the field are also qualified to perform their jobs and are highly committed to safety and effective flying operations. However, the level of personnel qualification across the complex is not uniform. While most aviation managers and aviation safety officers are highly qualified for their positions by virtue of extensive aviation experience and training, some persons in similar positions have little aviation experience, training, or other relevant qualifications. In these cases, their supervisors have recognized these managers' need for additional training in aviation operations, but they do not have a formal plan to identify the type of training needed and to ensure that the managers receive it. Only one of the operations offices visited has a formal process to systematically identify aviation safety training needs for DOE personnel with aviation responsibilities and to ensure that this training is obtained. More importantly, there are no DOE-wide technical qualification standards for DOE aviation personnel in the field.

The level of aviation managers' qualifications is not uniform across the complex.

The staff comprising the Aviation Operations Team have the experience and qualifications necessary to perform their jobs. They are a valuable resource of aviation knowledge for the Department. Most DOE aviation personnel in the field who have received technical assistance from this organization feel that it provides a valuable service.

The Aviation Operations Team is a valuable resource of aviation knowledge for the Department.

3.0 OPPORTUNITIES FOR IMPROVEMENT

Overall, the challenge facing the Department's aviation program is to maintain, in the face of changing missions and downsized aviation operations, the strong commitment to professionalism and excellence that currently exists in its aviation managers and staff. DOE must also resist the onset of complacency resulting from its excellent safety record during the past three years.

3.1 Program offices should fully exercise their line management responsibilities for the aviation operations supporting their programs.

The current lack of program office involvement in the Department's aviation safety program probably stems from DOE policy, which does not give program offices any formal role in reviewing, concurring with, or approving aviation implementation plans; this approval is reserved for the Senior Aviation Management Official. The involvement of the Senior Aviation Management Official and his staff in the review and approval process is appropriate, given that this organization has the expertise to evaluate the technical adequacy of the proposed aviation programs outlined in the implementation plans. However, the process for approving implementation plans should be changed to allow the program offices to exercise their line management authority for these programs.

Program offices need to fully exercise their line management responsibility for their aviation programs.

3.2 Ensure that formal self-assessments and formal surveys are conducted regularly for all DOE aviation programs.

DOE uses two levels of local management control to ensure that its programs are conducted safely and in accordance with applicable standards: (1) formal internal self-assessments by the organization directly responsible for doing the work, and (2) formal surveys by the DOE operations office locally responsible for the program(s). Neither of these levels is operating effectively in the Department's aviation safety program.

The first level that requires attention is the contractors' formal self-assessment programs. DOE operations offices should take all necessary steps, including specifying a self-assessment program in their aviation implementation plans, to ensure that these important reviews are conducted regularly.

Operations office surveys are the second level of management controls requiring attention. All DOE operations offices with aviation operations should, at a minimum, resume formal surveys of their aviation operations. Operations offices may wish to consider using the technical expertise of the Aviation Operations Team (EH-53) to supplement the in-house expertise of their survey teams. The members of the Aviation Operations Team have considerable depth of aviation experience to assist operations offices in conducting surveys, and the Senior Aviation Management Official endorses his staff's participation in these efforts. EH-53 participation in surveys and self-assessments provides the added benefit of enhancing Aviation Operations Team members' DOE-wide perspective on aviation problems and solutions, enabling them to better assist other sites in solving their problems.

3.3 Establish technical qualifications for DOE field personnel with aviation program responsibilities.

While some of the DOE field personnel with aviation responsibilities are well qualified for their jobs, there are no Departmental qualification standards specifying the competencies necessary to successfully meet aviation responsibilities. As a result, the levels of aviation qualifications of DOE field personnel vary. DOE field personnel who are responsible for day-to-day aviation operations and assuring adequate levels of safety may not have the technical expertise to make informed decisions. Technical qualifications should be developed for the field positions of DOE Aviation Manager and Aviation Safety Officer.

Formal self-assessments and surveys must be re-established and conducted.

The Aviation Operations Team has considerable depth in aviation experience and should assist operations offices with their surveys.

Technical qualifications should be developed for the field positions of Aviation Manager and Aviation Safety Officer.